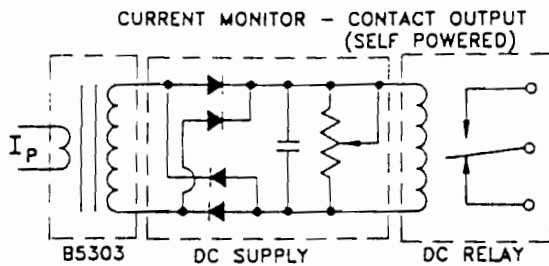


## TYPICAL APPLICATIONS



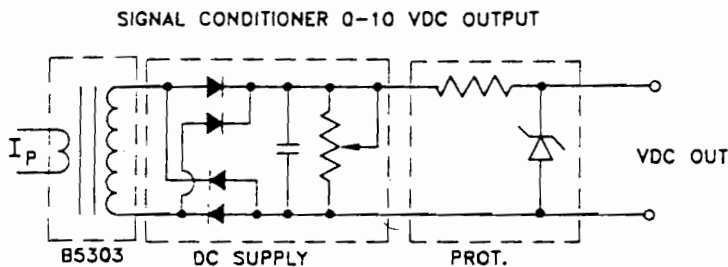
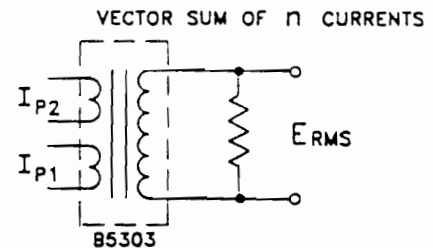
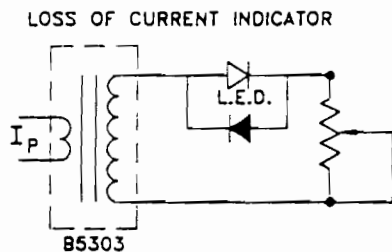
### TYPICAL DATA:

RELAY COIL: 1500 OHMS =  $R_c$   
 MUST OPERATE: 3 VDC =  $V_{out}$   
 MUST RELEASE: 1 VDC =  $V_{out}$   
 DIODE DROP: 0.7 =  $V_D$   
 DC RIPPLE: 10%  $V_{out}$  =  $V_R$   
 TRIM RESISTOR:  $R_1$

$$V_S = \frac{V_{out} + 2V_D + V_R}{\sqrt{2}}$$

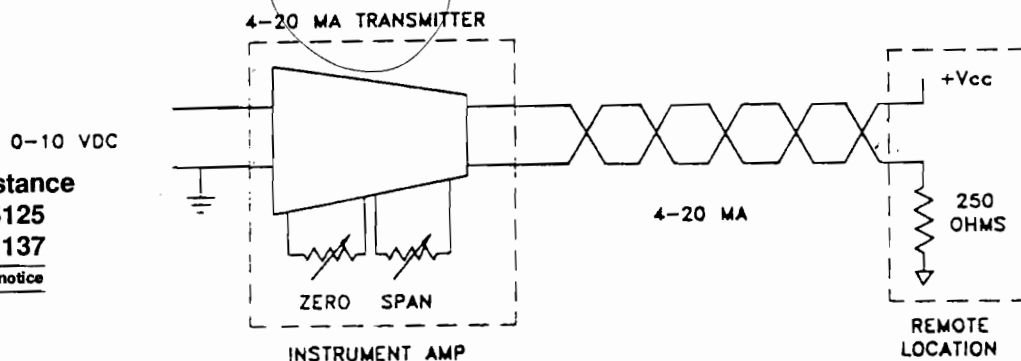
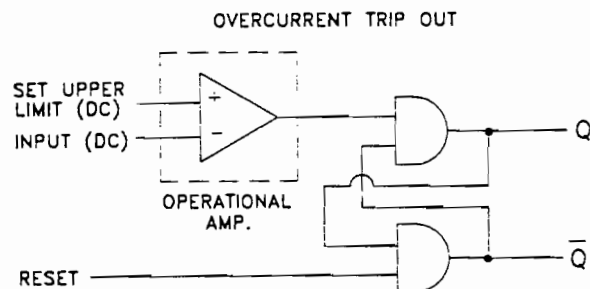
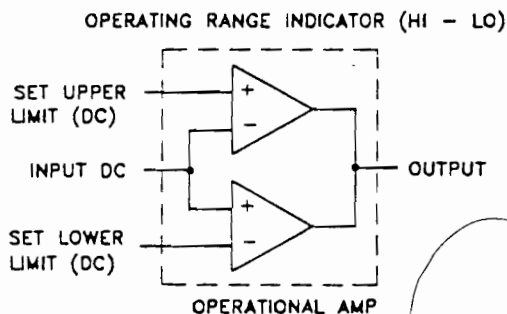
$$R_S = \frac{R_1 R_c}{R_1 + R_c}$$

$$I_P = \frac{V_S \times 10^4}{2 \times R_S}$$



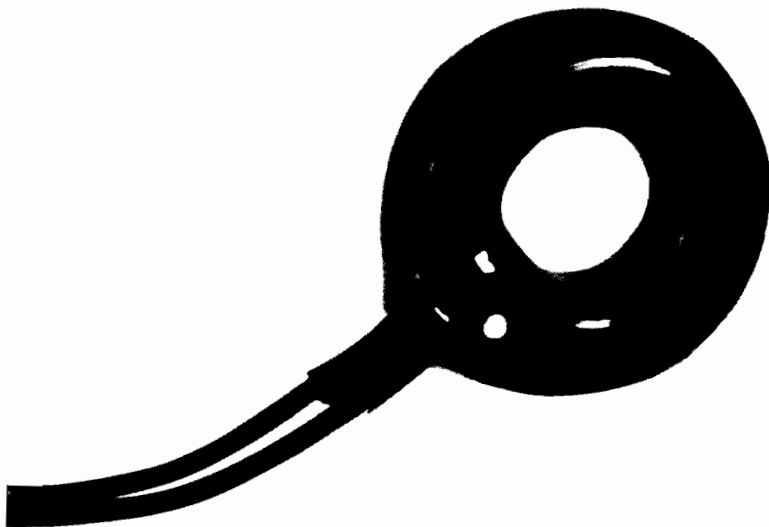
$$VDC\ OUT = \sqrt{2} (V_S - 2V_D - V_R)$$

WHERE  $V_S = 2 I_P R_S \times 10^{-4}$



For Technical Assistance  
 CALL 203-824-5125  
 FAX 203-824-1137  
 Data subject to change without notice





### Specifications

- ♦ Catalog Number B5303
- ♦ Non-contact measurement of AC current
- ♦ Frequency range 50 to 400 Hz
- ♦ Current range to 200 Amps ( $I_p$ )
- ♦ Overload capacity to 300 Amps
- ♦ Programmable Voltage Output (VS)  
VS = output voltage up to 10 VRMS
- ♦ Programmable Burden (load) Resistor (RS), user supplied
- ♦ Performance per equation  
 $VS = 2 \cdot I_p \cdot RS \cdot 10^{-4}$
- ♦ Accuracies to 0.1%
- ♦ Mechanical dimensions  
O.D. 2.0"  
I.D. 0.7"  
Ht. 0.8"
- ♦ Leads #24 AWG - 12" long
- ♦ Dielectric strength - 1500 VRMS
- ♦ Class A temperature rated

Bicron has developed a programmable current to voltage sensor. The B5303 is designed to produce an output voltage which is proportional to the input current by utilizing a high quality, grain-oriented silicon steel toroidal core with a high number of turns. It differs from the conventional current transformer which is designed to produce an output current proportional to the input current. Bicron offers customized current sensors to meet specific electrical, mechanical and environmental requirements.

Call us for immediate technical and application assistance.

### Advantages

The B5303 is designed to be useful in any AC current monitoring or control application. Programmable voltage outputs 0 - 5V or 0 - 10V provide easy computer I/O interface.

Many applications of the B5303 can be designed to be self-powered to minimize components and wiring.

Some typical applications for which the current sensor is suited are:

- Heater element failure
- Remote light failure
- START/RUN motor currents
- Loss of load, detected by undercurrent
- Equipment overloads, detected by overcurrent
- Operate-time totalizers
- Phase unbalance
- Phase sequence
- Peak power demand

Typical circuit concepts are provided on the reverse side.

